EPO - DG 1 - 03.09.2007

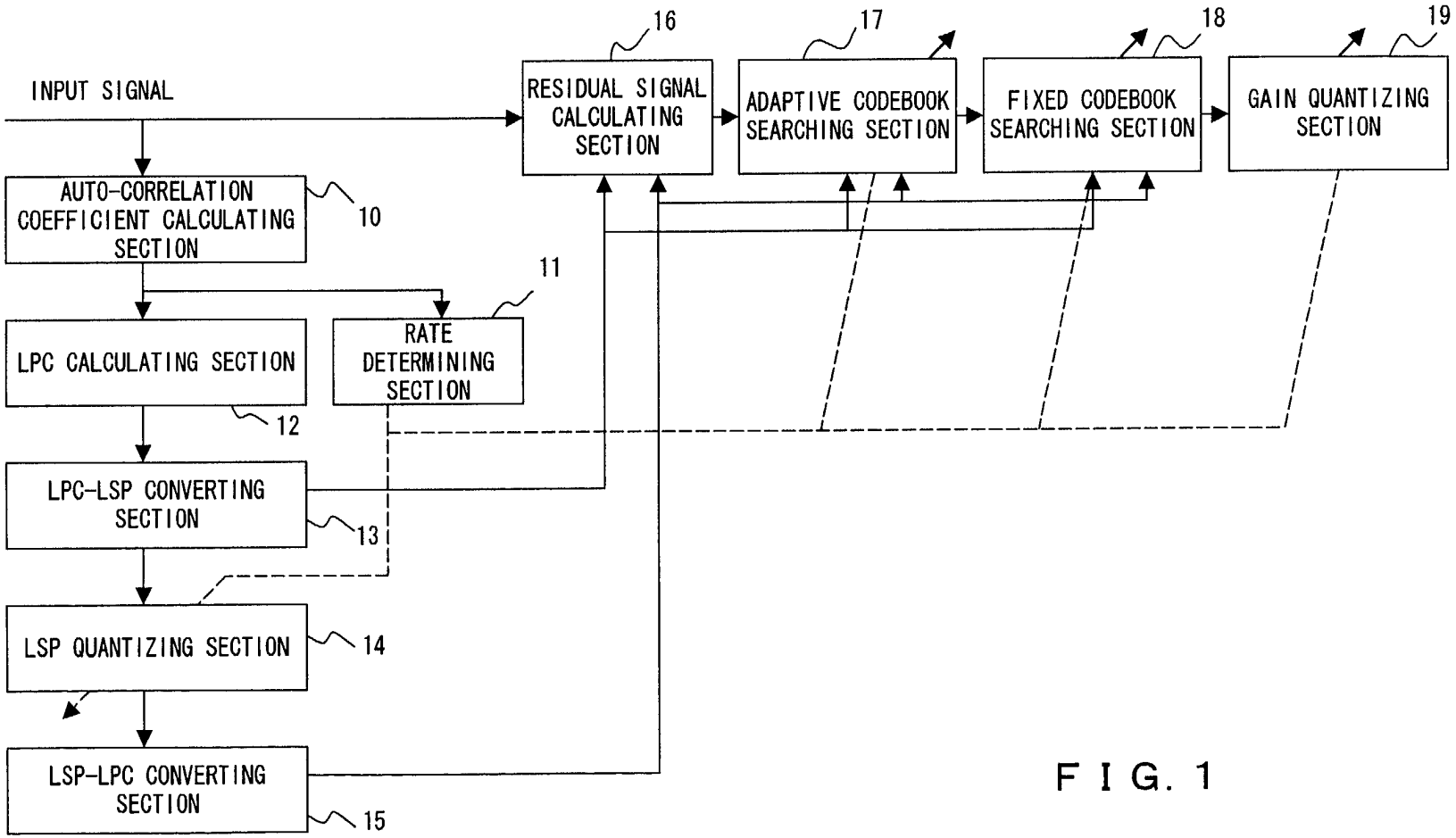


FIG. 1

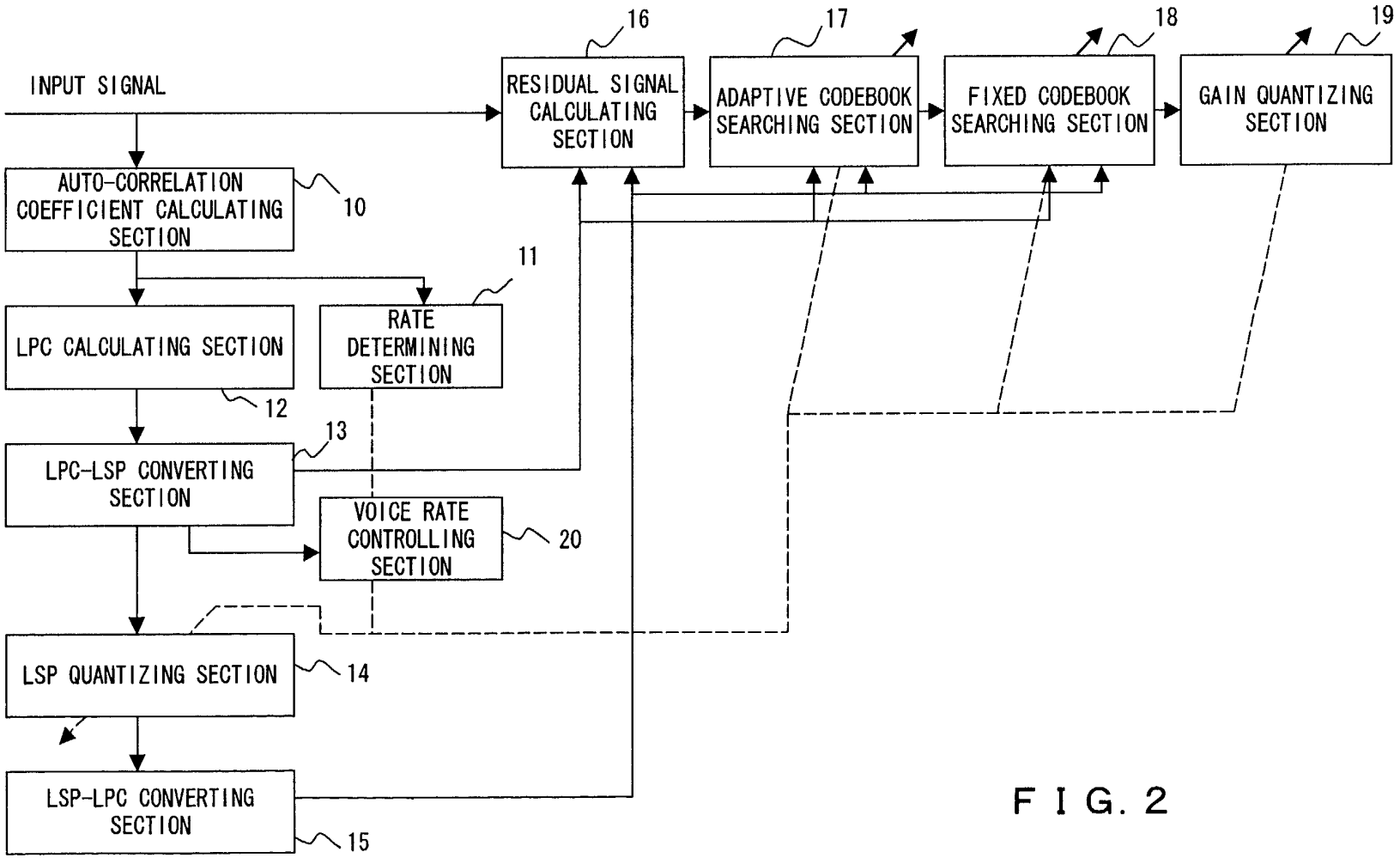

INPUT SIGNAL
AUTO-CORRELATION COEFFICIENT CALCULATING SECTION
10
LPC CALCULATING SECTION
12
RATE DETERMINING SECTION
11
LPC-LSP CONVERTING SECTION
13
VOICE RATE CONTROLLING SECTION
20
LSP QUANTIZING SECTION
14
LSP-LPC CONVERTING SECTION
15
RESIDUAL SIGNAL CALCULATING SECTION
16
ADAPTIVE CODEBOOK SEARCHING SECTION
17
FIXED CODEBOOK SEARCHING SECTION
18
GAIN QUANTIZING SECTION
19

FIG. 2

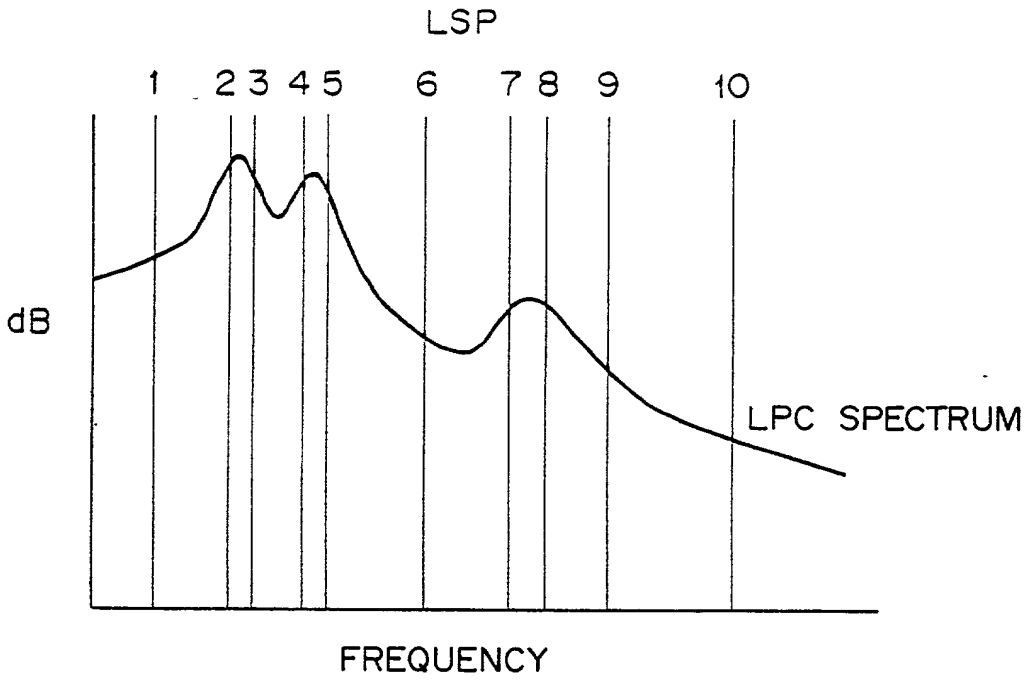


FIG. 3

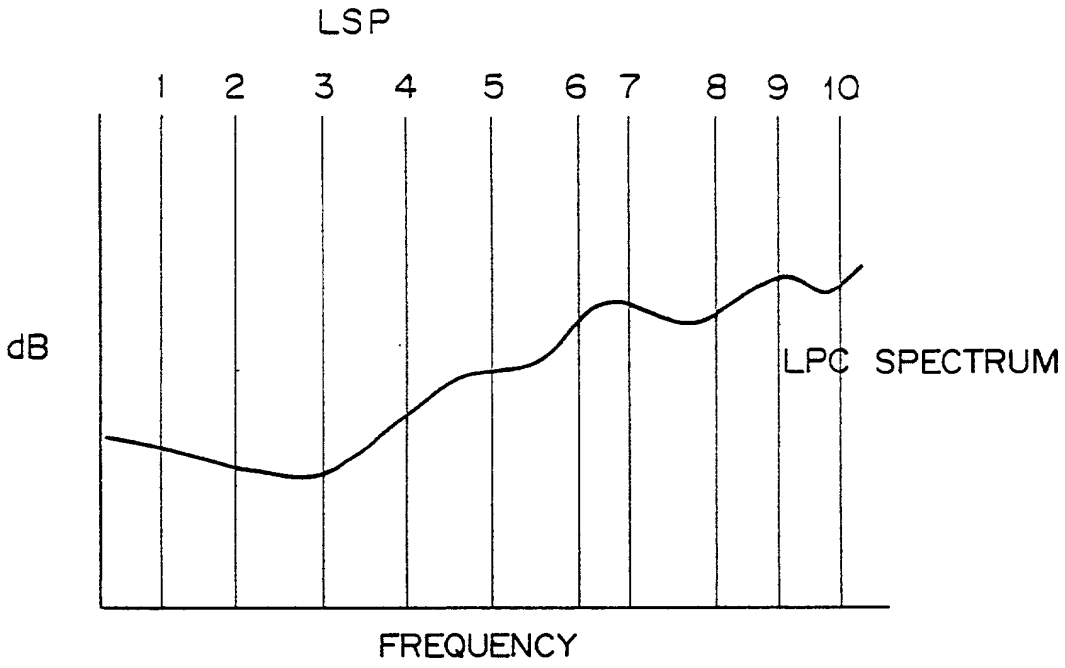


FIG. 4

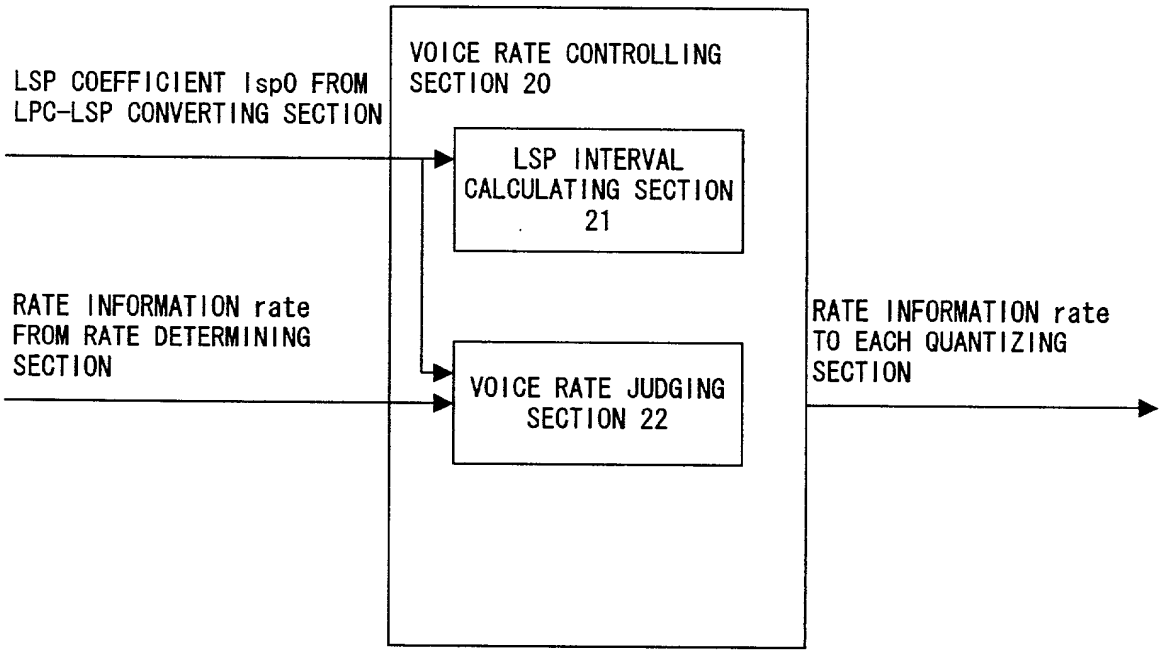

VOICE RATE CONTROLLING SECTION 20
LSP COEFFICIENT lspO FROM LPC-LSP CONVERTING SECTION
LSP INTERVAL CALCULATING SECTION 21
RATE INFORMATION rate FROM RATE DETERMINING SECTION
VOICE RATE JUDGING SECTION 22
RATE INFORMATION rate TO EACH QUANTIZING SECTION

FIG. 5

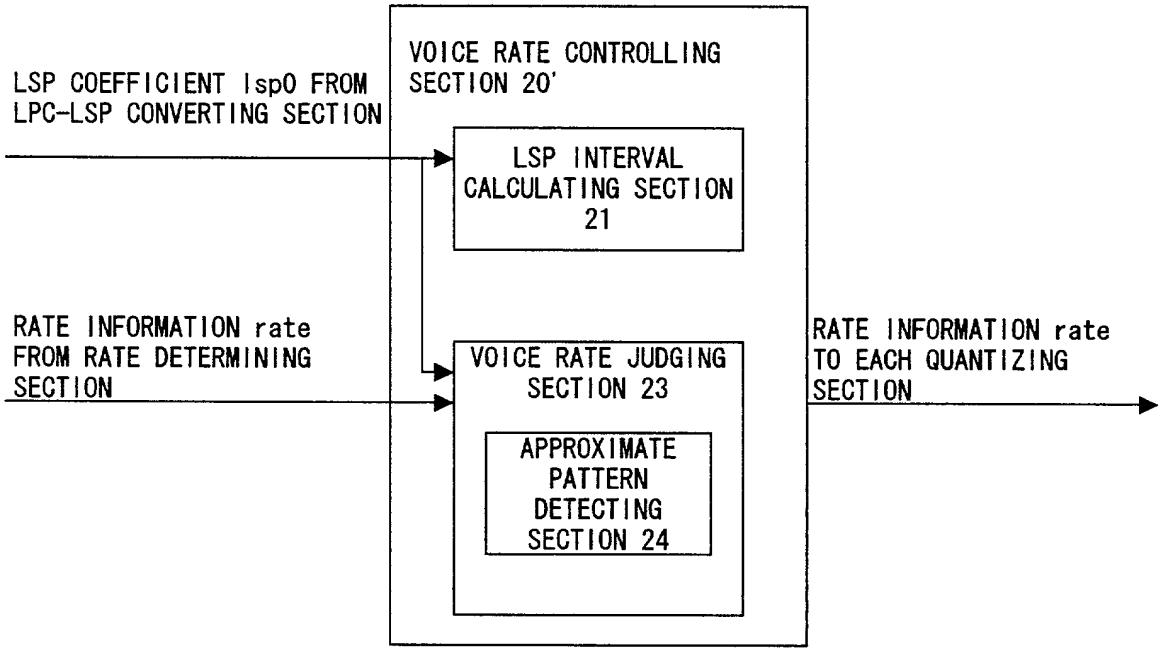
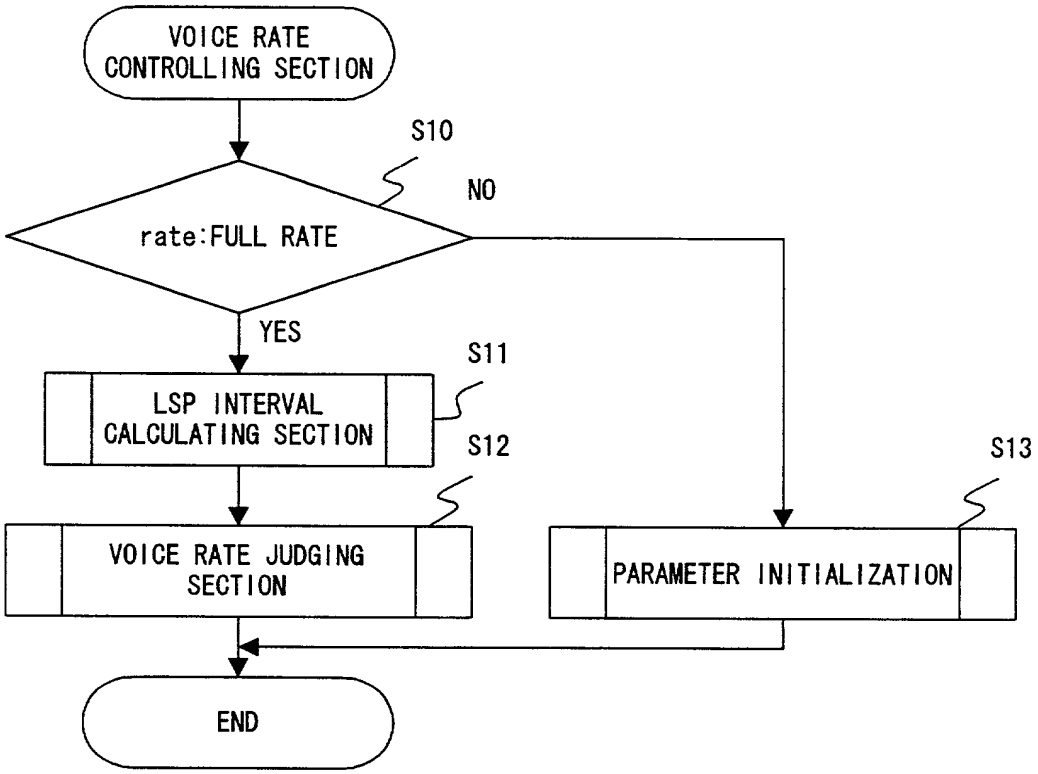

VOICE RATE CONTROLLING SECTION 20'
LSP COEFFICIENT lspO FROM LPC-LSP CONVERTING SECTION
LSP INTERVAL CALCULATING SECTION 21
RATE INFORMATION rate FROM RATE DETERMINING SECTION
VOICE RATE JUDGING SECTION 23
APPROXIMATE PATTERN DETECTING SECTION 24
RATE INFORMATION rate TO EACH QUANTIZING SECTION

FIG. 6


VOICE RATE CONTROLLING SECTION
S10
NO
rate:FULL RATE
YES
S11
LSP INTERVAL CALCULATING SECTION
S12
S13
VOICE RATE JUDGING SECTION
PARAMETER INITIALIZATION
END

F I G. 7

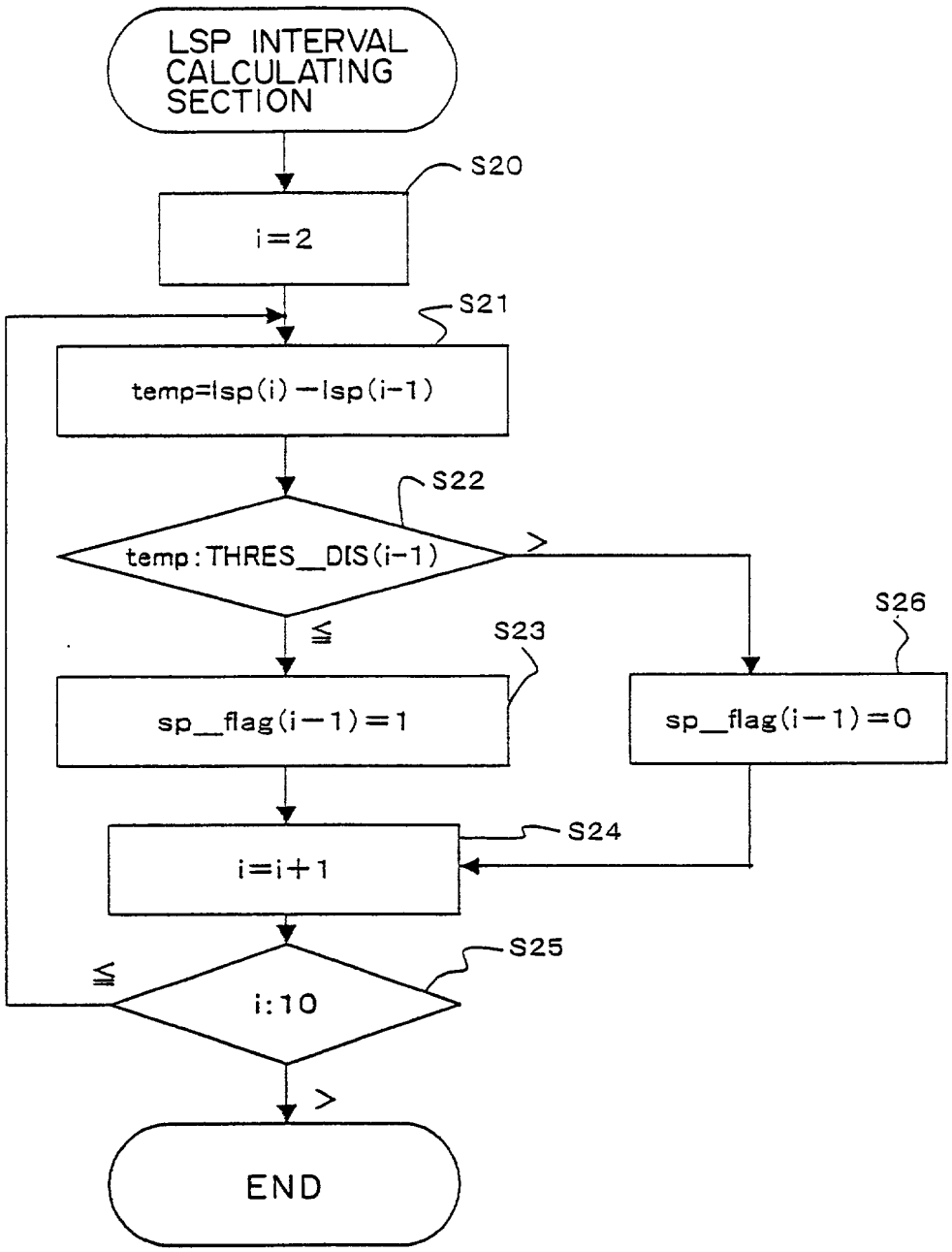

LSP INTERVAL CALCULATING SECTION
S20
i=2
S21
temp=lsp(i)−lsp(i−1)
S22
temp:THRES_DIS(i−1)
>
≦
S23
sp_flag(i−1)=1
S26
sp_flag(i−1)=0
S24
i=i+1
S25
≦
i:10
>
END

FIG. 8

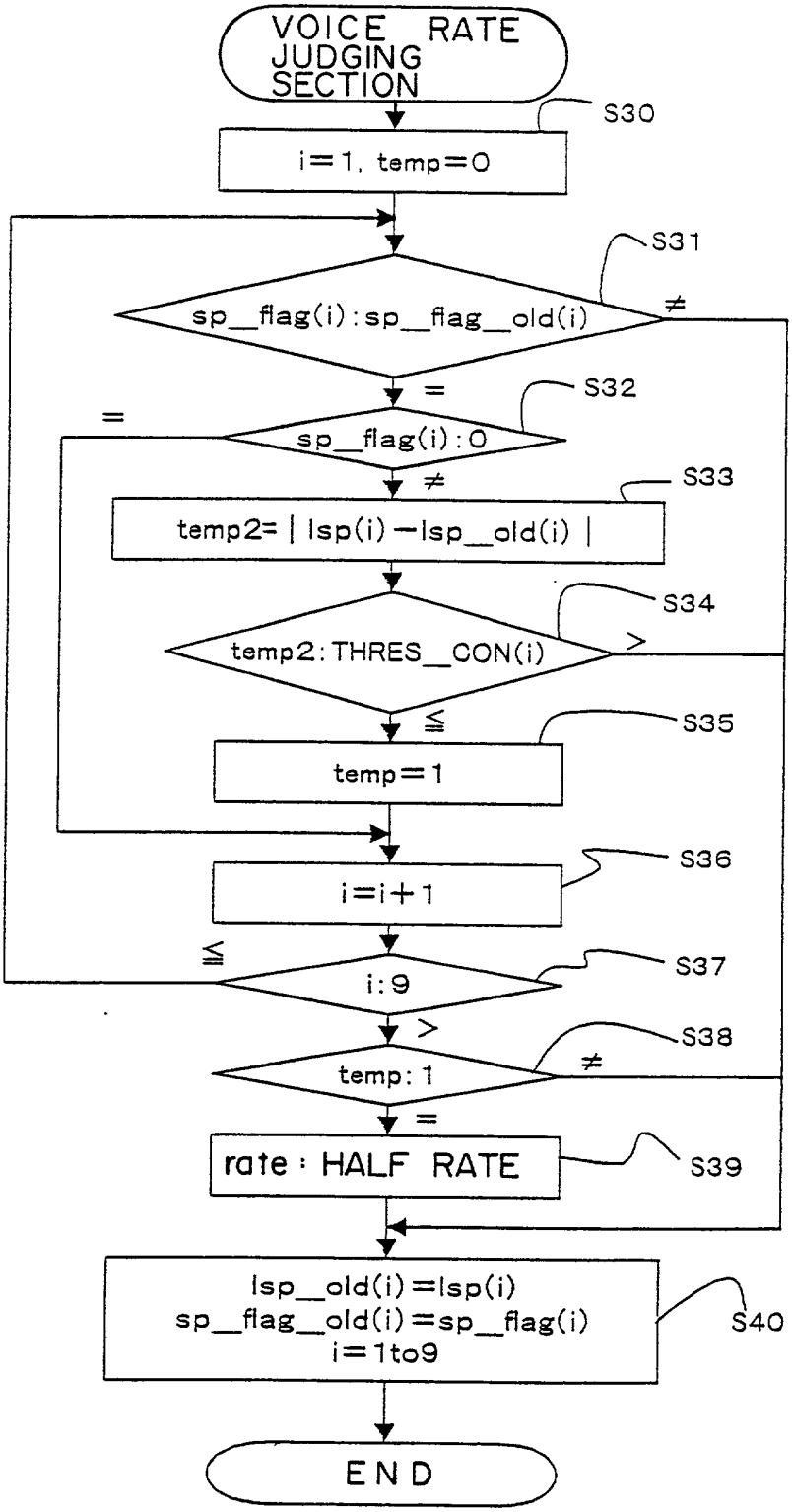

VOICE RATE JUDGING SECTION
S30
i=1, temp=0
S31
sp_flag(i):sp_flag_old(i)
≠
=
S32
=
sp_flag(i):0
≠
S33
temp2=|lsp(i)−lsp_old(i)|
S34
temp2:THRES_CON(i)
>
≦
S35
temp=1
S36
i=i+1
≦
S37
i:9
>
S38
temp:1
≠
=
rate:HALF RATE
S39
lsp_old(i)=lsp(i)
sp_flag_old(i)=sp_flag(i)
i=1to9
S40
END

FIG. 9

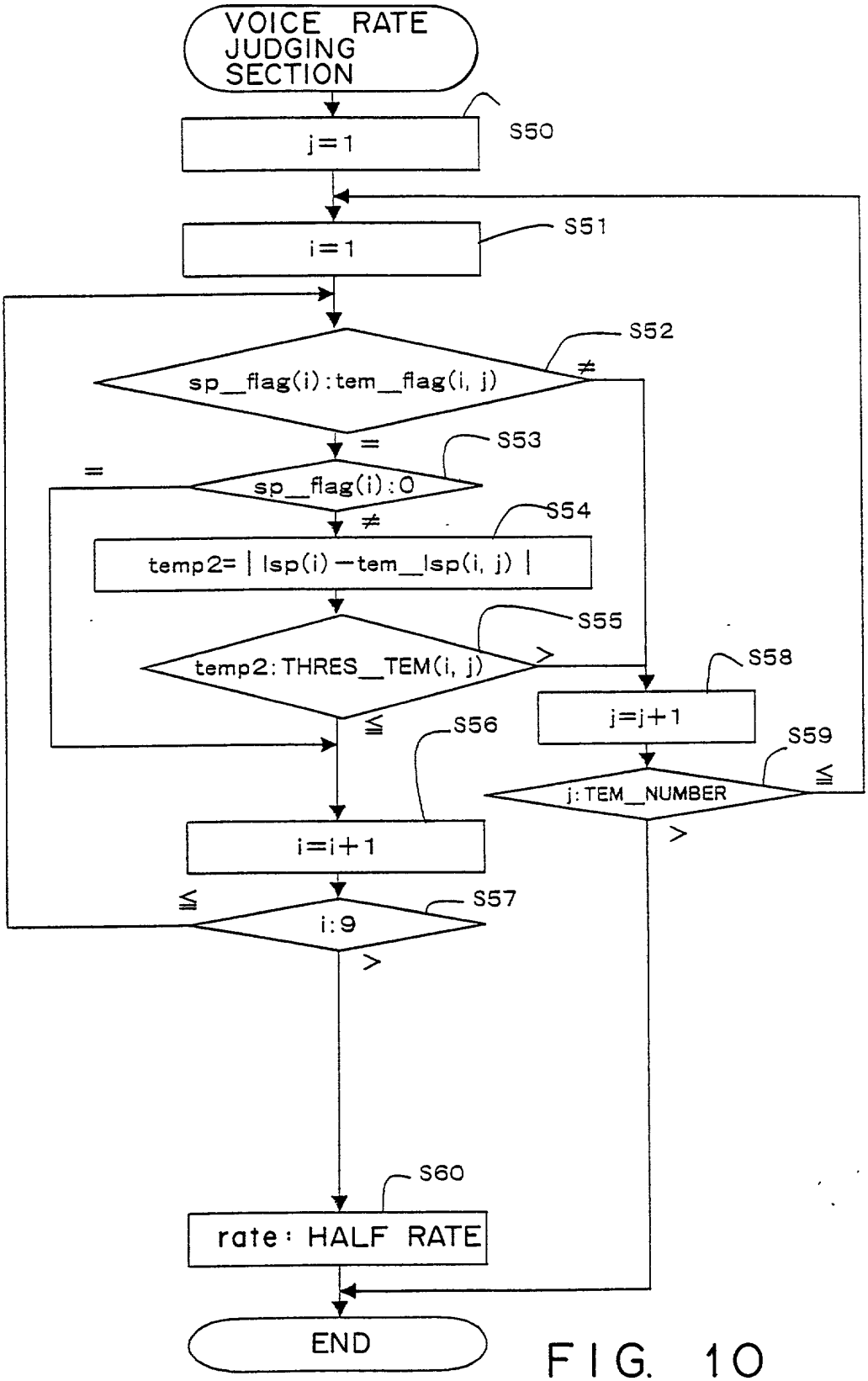

VOICE RATE JUDGING SECTION
j=1
S50
i=1
S51
sp_flag(i):tem_flag(i, j)
≠
S52
=
S53
=
sp_flag(i):0
≠
S54
temp2=|lsp(i)−tem_lsp(i, j)|
S55
temp2:THRES_TEM(i, j)
>
S58
j=j+1
S59
j:TEM_NUMBER
≦
>
≦
S56
i=i+1
≦
S57
i:9
>
S60
rate:HALF RATE
END

FIG. 10

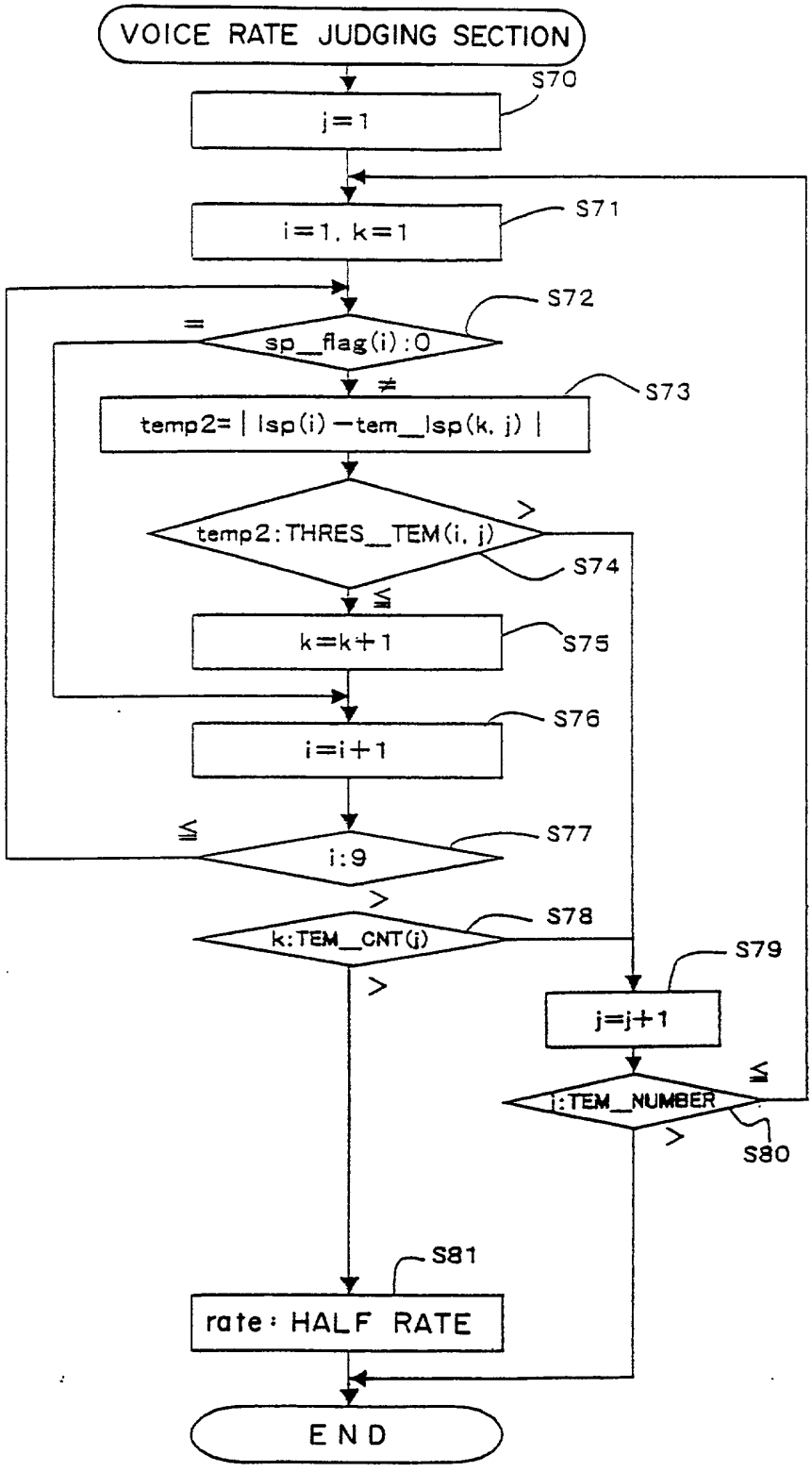

VOICE RATE JUDGING SECTION
S70
j=1
S71
i=1, k=1
S72
=
sp_flag(i):0
≠
S73
temp2=| lsp(i)−tem_lsp(k, j) |
>
temp2:THRES_TEM(i, j)
S74
≦
S75
k=k+1
S76
i=i+1
≦
S77
i:9
>
S78
k:TEM_CNT(j)
>
S79
j=j+1
≦
j:TEM_NUMBER
>
S80
S81
rate: HALF RATE
END

FIG. 11

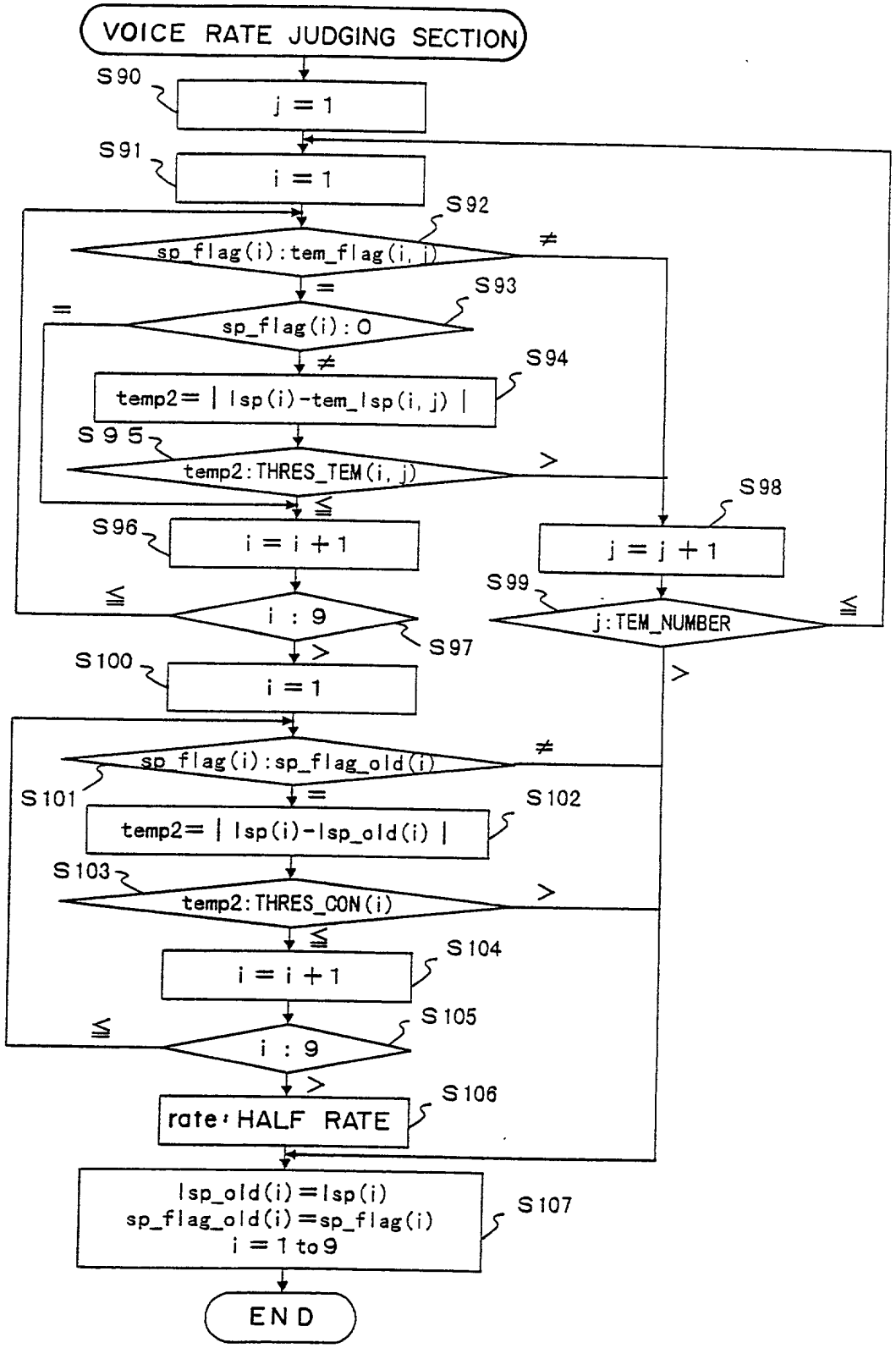

VOICE RATE JUDGING SECTION
S90
j = 1
S91
i = 1
S92
sp_flag(i) : tem_flag(i, j)
≠
=
S93
sp_flag(i) : 0
=
≠
S94
temp2 = | lsp(i) - tem_lsp(i, j) |
S95
temp2 : THRES_TEM(i, j)
>
≦
S96
i = i + 1
S98
j = j + 1
S99
j : TEM_NUMBER
≦
>
≦
i : 9
S97
>
S100
i = 1
sp_flag(i) : sp_flag_old(i)
≠
S101
=
S102
temp2 = | lsp(i) - lsp_old(i) |
S103
temp2 : THRES_CON(i)
>
≦
S104
i = i + 1
S105
≦
i : 9
>
S106
rate : HALF RATE
lsp_old(i) = lsp(i)
sp_flag_old(i) = sp_flag(i)
i = 1 to 9
S107
END

FIG. 12

THRES_DIS(1)～(9)

No.	1	2	3	4	5	6	7	8	9
THRESHOLD VALUE	1.0	0.1	0.12	0.12	0.12	0.13	0.14	0.14	0.15

FIG. 13A

THRES_CON(1)～(9)

No.	1	2	3	4	5	6	7	8	9
THRESHOLD VALUE	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.09	0.10

FIG. 13B

TEM_NUMBER:10 (NUMBER OF TEMPLATES)
tem_flag(l,9)

No. (i=)	1	2	3	4	5	6	7	8	9
THRESHOLD VALUE	0	1	0	1	0	0	1	0	0

tem_lsp(l,9)

No. (i=)	1	2	3	4	5	6	7	8	9
VALUE	0	0.56	0	0.92	0	0	1.90	0	0

THRES_TEM(i,9)

No. (i=)	1	2	3	4	5	6	7	8	9
THRESHOLD VALUE	0	0.2	0	0.3	0	0	0.4	0	0

FIG. 13C

TEM_CNT(j):3 (NUMBER OF PEAK COUNTS)
tem_lsp(k,j)

No. (k=)	1	2	3
VALUE	0.56	0.92	1.90

THRES_TEM(k,j)

No. (k=)	1	2	3
THRESHOLD VALUE	0.2	0.3	0.4

FIG. 13D

EXPRESS MAIL

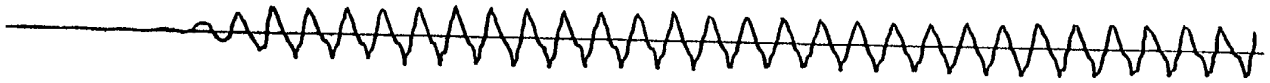


FIG. 14A

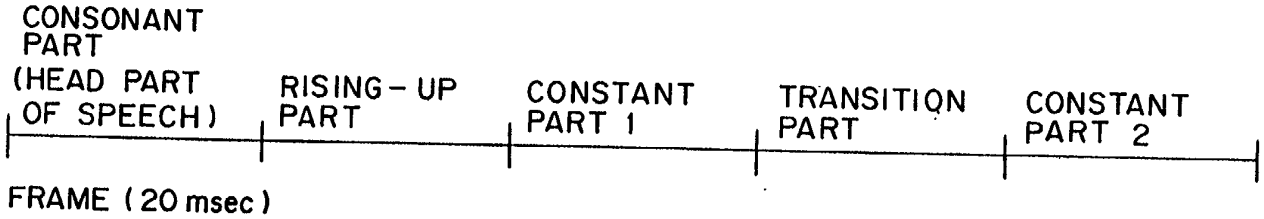


FIG. 14B

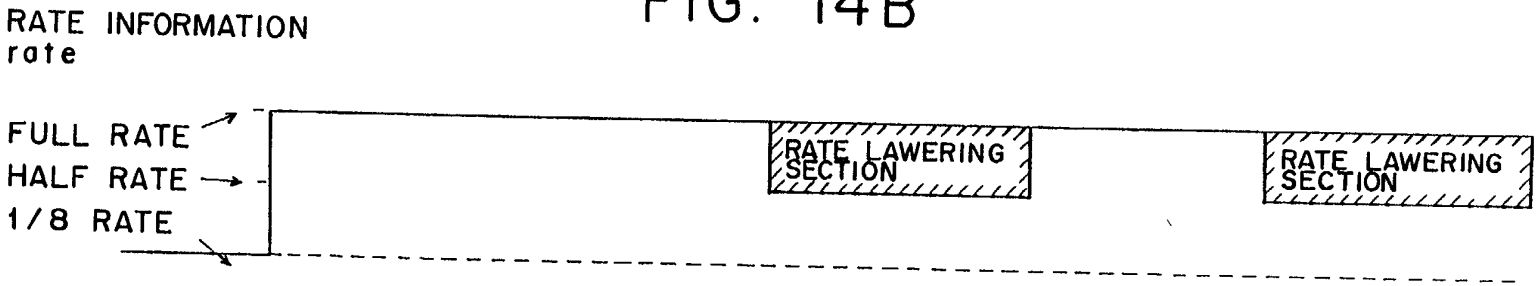


FIG. 14C

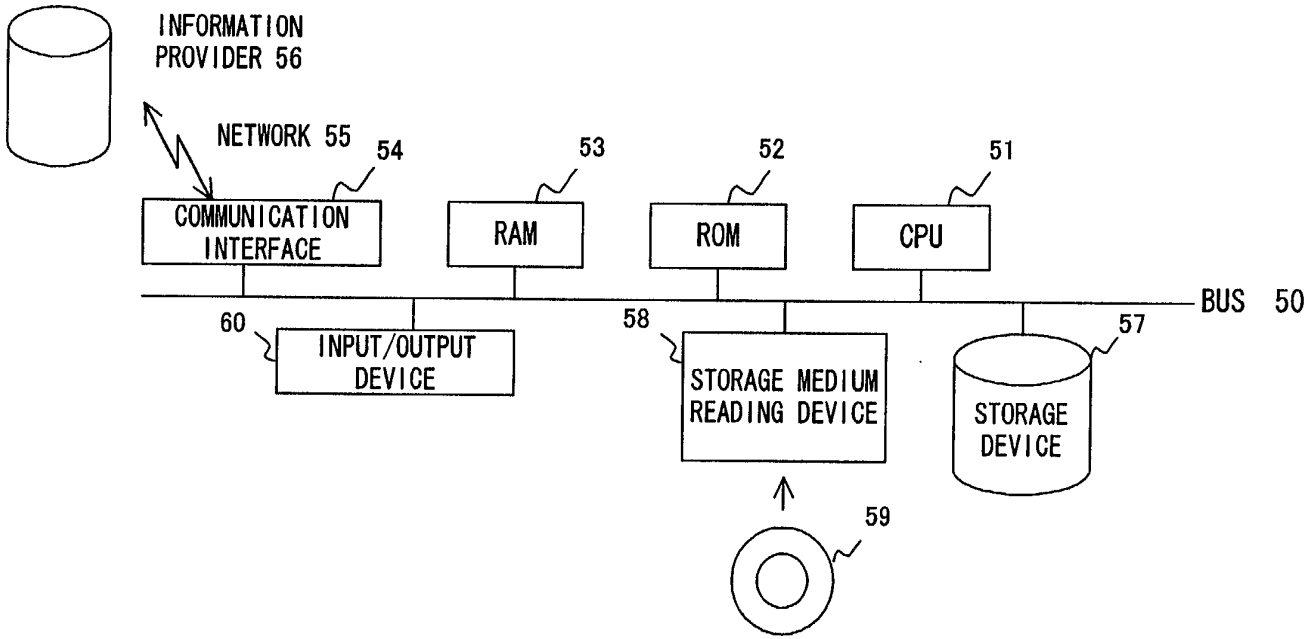

INFORMATION PROVIDER 56
NETWORK 55
54
53
52
51
COMMUNICATION INTERFACE
RAM
ROM
CPU
BUS 50
60
58
57
INPUT/OUTPUT DEVICE
STORAGE MEDIUM READING DEVICE
STORAGE DEVICE
59

FIG. 15